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Case Report

Diagnostic and Therapeutic Dilemmas in Inguinal Endometriosis: A Case Report

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ABSTRACT

Introduction: Endometriosis is a common gynecological condition, but its extragenital forms, particularly inguinal endometriosis, are rare and pose significant diagnostic and therapeutic challenges. This case highlights the complexities encountered in managing endometriosis in an unusual location.

Case Presentation: We report the case of Mrs. C, a 34-year-old married woman, who presented with a 4-year history of a painful, cyclically bleeding lump in the right pubic region, was initially misdiagnosed as a traumatic cyst. Histopathological examination of an external genital biopsy in 2023 confirmed endometriosis. Initial monthly Depo Medroxyprogesterone Acetate (DMPA) therapy for six cycles proved ineffective. Subsequently, Gonadotropin-Releasing Hormone (GnRH) agonist (Endrolin) injections were administered for a total of 12 cycles, with symptom improvement, specifically cessation of bleeding, noted only after the seventh cycle. No hypoestrogenic side effects were reported despite prolonged GnRH agonist use without add-back therapy.

Conclusion: This case illustrates the diagnostic delay often associated with extragenital endometriosis due to its atypical presentation, with the patient receiving only symptomatic treatment for years. The need for prolonged GnRH agonist therapy (12 cycles), exceeding standard guidelines of six months, highlights individual variability in treatment response, even without add-back therapy. Recurrence of bleeding occurred shortly after cessation of Dienogest maintenance therapy due to economic constraints, underscoring the chronic, hormone-dependent nature of the disease and the importance of continuous, accessible treatment. The patient consistently declined operative laparoscopy for wider excision.

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INTRODUCTION

Endometriosis is a pathological condition characterized by the presence of endometrial-like tissue outside the uterine cavity. Ectopic implants remain hormonally responsive, producing cyclical pelvic pain, dysmenorrhea, infertility and less commonly cyclical bleeding [1,2]. Overall prevalence is estimated at 10% among reproductive-age women, and is higher in populations with infertility [3]. In Indonesia, robust prevalence data are limited, although clinical series indicate that endometriosis is a frequently encountered gynecologic diagnosis [4]. Typical sites are the ovary, fallopian tube, peritoneum and pelvic ligaments, while extragenital locations such as skin, subcutaneous tissue, inguinal region, bowel, lung are rare [1,2].

Extragenital endometriosis is uncommon, likely <1% of all cases, and most often reported in postoperative abdominal wall scars, the umbilicus, the inguinal region and other subcutaneous sites [5]. Distant visceral involvement such as gastrointestinal tract, lung, and brain has been described but remains exceptional.

Because its clinical presentation is non-specific and may mimic hernia, abscess or cutaneous neoplasm, diagnosis is frequently delayed [5,6].

Pathogenesis is not fully elucidated. Leading hypotheses include hematogenous or lymphatic dissemination and direct implantation. Inguinal endometriosis may originate from lesions on the round ligament that track through the inguinal canal. Prior pelvic or obstetric/gynaecologic surgery and other invasive procedures are recognized risk factors for implantative extragenital disease [5,7].

Clinically, inguinal endometriosis often presents with cyclical pain, a palpable atypical mass and occasional intermittent bleeding, features that commonly lead to misdiagnosis and repeated, prolonged evaluations. Physical examination and imaging are frequently non-specific; histological confirmation by tissue biopsy remains the diagnostic gold standard, but is often obtained late, after extended symptomatic periods and empirical treatments [8–10].

Management must be individualized according to lesion site, symptom severity, fertility desires, and patient preference. First-line medical options include ovarian suppression with depot medroxyprogesterone acetate (DMPA), gonadotropin-releasing hormone agonists or selective progestins such as dienogest. These therapies aim to reduce estrogenic stimulation and induce atrophy of ectopic endometrium but carry adverse effects such as bone loss, mood changes, vasomotor symptoms, and weight variation that limit long-term use. Surgical excision is indicated when medical therapy fails, is contraindicated, or is not tolerated [5,6].

This case report details a complex presentation of inguinal endometriosis, highlighting the protracted diagnostic journey, the unconventional use of long-term GnRH agonist therapy, and the critical role of patient preference and socioeconomic factors in shaping management.

CASE PRESENTATION

Mrs. C is a 34-year-old married woman, married for 14 years with one child (P1001Ab000), who was referred to the Fertility, Endocrinology, and Reproduction (FER) clinic at Saiful Anwar General Hospital (RSSA) with a diagnosis of right inguinal endometriosis. She previously used injectable Depo Medroxyprogesterone Acetate (DMPA) and oral contraceptive pills for contraception. Her symptoms began with a complaint of a painful lump in the vaginal area, which intensified during menstruation.

After initially being diagnosed as a "traumatic cyst", the definitive diagnosis of endometriosis was established by histopathological examination (PA) of an external genitalia biopsy. Microscopically, the tissue confirmed endometriosis with no signs of malignancy, revealing endometrial glands, endometrial stromal cells, and widespread hemosiderophages.

Following the initial biopsy, the patient developed persistent bleeding and pain from the resulting scar, particularly during menstruation. Her imaging findings were initially varied. While an abdominal USG was reported as normal and a first pelvic MRI concluded "currently no evidence of endometriosis", a subsequent, critical pelvic MRI demonstrated a post-operative defect in the right pubic region (2.4 cm) and, significantly, identified a similar lesion in the pelvic cavity at the posterior uterus at the S4 level, appearing to adhere to the rectum. This finding supported features of both cutan-subcutan endometriosis and deep intrapelvic endometriosis (Fig.1).



Fig.1. Clinical examination revealed a scar in the pubic/inguinal region

Her initial treatment involved monthly DMPA injections, but this regimen proved ineffective, as bleeding from the biopsy scar persisted. Consequently, she was transitioned to Gonadotropin-Releasing Hormone (GnRH) agonist (Endrolin) injections. Bleeding continued throughout the initial part of this treatment, resolving only after an extended course of Endrolin. The patient did not report any hypoestrogenic side effects during this prolonged GnRH agonist therapy. After completing the Endrolin course, she transitioned to oral Dienogest maintenance therapy, but this was quickly halted due to economic constraints and drug unavailability (Table 1).

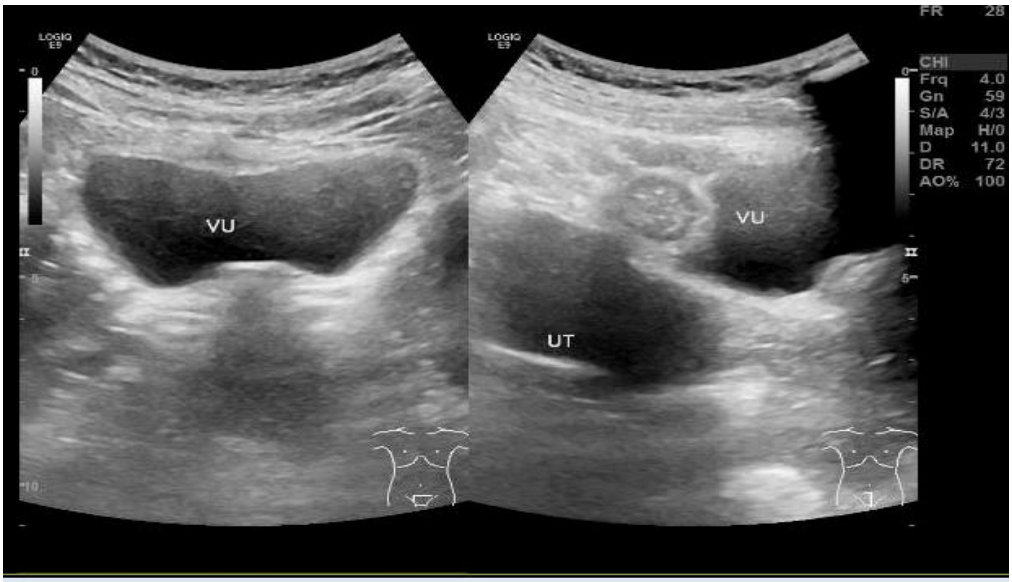


Fig.2. Ultrasound examination revealed normal finding

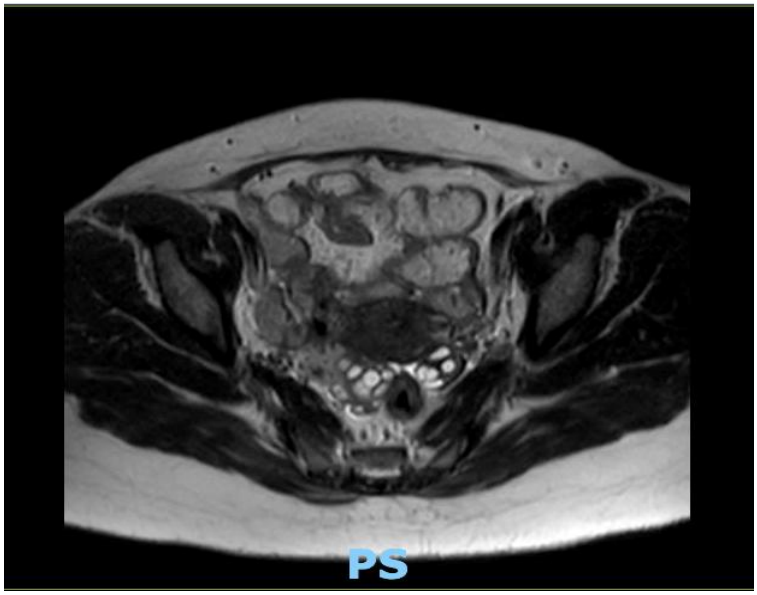


Fig.3. MRI Pelvis Axial Section Shows Cutaneous-Subcutaneous Endometriosis in the Right Pubic Region (Surgical Scar) and Posterior Side of the Uterus Adhering to the Rectum.

Predictably, bleeding from the biopsy site recurred shortly after stopping Dienogest. DMPA injections were re-suggested every three months, and the patient subsequently reported no bleeding for a period, implying potential adherence to the renewed conservative regimen. Despite the radiological confirmation of the intrapelvic lesion adhering to the rectum, the patient consistently declined operative laparoscopy for wider excision, choosing conservative management due to her psychological readiness for invasive procedures. The patient does not currently plan to have any more children (Fig. 2 and 3).

DISCUSSION

Endometriosis is a chronic gynecological condition characterized by the presence of endometrial tissue outside the uterine cavity, affecting an estimated 2-10% of women of reproductive age globally, with higher prevalence (30-50%) in those experiencing infertility or chronic pelvic pain [11,12]. Extragenital endometriosis (EGE), defined as endometrial tissue found outside the reproductive organs and pelvic cavity, is a rare manifestation, accounting for less than 1% of all endometriosis cases. Common extragenital sites include

Table 1. Clinical Timeline of Symptoms, Diagnosis, and Management

Time Period	Clinical Event	Investigation / Intervention	Outcome / Finding
Jan 2019	Onset of a painful lump in the right pubic region, worsening with menses.	-	Symptoms persisted; patient self-managed.
Dec 2019	Worsening pain.	Abdominal USG (normal); symptomatic treatment (analgesics, vitamins).	No improvement.
Feb 2023	Presentation to another hospital.	Clinical diagnosis of "traumatic cyst"; biopsy performed.	Histopathology: Confirmed endometriosis, no malignancy. Patient lost to follow-up.
Sep 2023	Onset of cyclical bleeding from the biopsy scar.	Initiated monthly DMPA injections.	Received 6 cycles until Feb 2024. No improvement.
Mar 2024	Referral to our clinic.	-	Diagnosis of right inguinal endometriosis established.
Mar - Aug 2024	First course of GnRH agonist (Endrolin).	6 cycles of Endrolin. Abdominal USG (May 2024) normal.	Bleeding from the scar persisted.
Oct 2024 - Mar 2025	Second course of GnRH agonist.	Additional 6 cycles of Endrolin (total 12 cycles).	Bleeding resolved after the 7th cycle (Dec 2024). No reported hypoestrogenic side effects.
Jan 2025	Follow-up imaging.	Pelvic MRI.	Reported "no evidence of endometriosis."
Apr 2025	Transition to maintenance therapy.	Oral Dienogest 2 mg/day.	-
May 2025	Economic constraints; drug unavailable.	Dienogest discontinued.	Bleeding recurred within 2 days.
May 2025	Re-evaluation.	Pelvic MRI.	Confirmed cutan-subcutan endometriosis in the right pubic region and a lesion on the posterior uterus (S4).
Jun 2025	Surgical consultation.	Operative laparoscopy with wider excision offered.	Patient declined surgery. Wound care is recommended.

the abdominal wall, umbilicus, intestines, bladder, and even distant organs like the lungs and brain. Inguinal endometriosis, as observed in this case, is particularly uncommon and is thought to originate from endometriosis of the round ligament, extending through the inguinal canal into the superficial soft tissues [5,13,14]. The rarity and atypical presentation of EGE often lead to significant diagnostic delays, which can extend for many years after the onset of symptoms, as highlighted by limited awareness among clinicians and the non-specific nature of the complaints.

Our patient, Mrs. C, a 34-year-old woman, presented with a cyclical painful lump in the right pubic region, a classic yet frequently overlooked symptom of EGE. The pain, which intensified during menstruation, and subsequent bleeding from a biopsy scar, were crucial indicators of hormonally sensitive ectopic endometrial tissue. Despite these suggestive symptoms, the patient initially receiving only symptomatic treatment for approximately four years without improvement. She was first diagnosed with a traumatic cyst in February 2023 at another hospital. This initial misdiagnosis and delayed definitive diagnosis underscore the challenges in identifying EGE, which often mimics more common conditions such as hernias, lipomas, or abscesses. The definitive diagnosis was only established through histopathological examination of the excised lesion in February 2023, which revealed endometrial glands and stroma outside the uterus, confirming endometriosis. This emphasizes that despite advances in imaging, histopathology remains the gold standard for confirming EGE [15,16].

The diagnostic workup involved various imaging modalities. Initial abdominal ultrasound (USG) in May 2024 was reported as normal. A subsequent evaluation USG in September 2024 revealed a heterogeneous lesion on the operative bed, suggestive of a complex fluid collection or hematoma, but could not definitively identify endometrial tissue. These findings highlight the limitations of USG in fully characterizing deep or less distinct extragenital lesions [17,18]. Pelvic MRI, recommended for atypical lesions or inconclusive USG results, was performed twice. While the January 2025 MRI did not show evidence of endometriosis, a later MRI in May 2025 was more conclusive. This second MRI demonstrated a defect in the cutan-subcutan layer of the right pubic region (post-operative, 2.4 cm) with characteristics supporting endometriosis, and critically, a similar lesion was found in the posterior uterus at the S4 level, appearing to adhere to the rectum. This finding

is significant as it indicates potential intrapelvic involvement and explains the persistent symptoms, reinforcing the known association between inguinal endometriosis and intrapelvic disease via the round ligament [15,17].

The clinical novelty of this case lies not in the rarity of the site, but in the aggregation of several uncommon management aspects including the requirement for a 12-month course of GnRH agonist therapy to achieve symptom control, the absence of reported hypoestrogenic side effects despite the extended duration and lack of add-back therapy, and the objective demonstration of multifocal disease progression on MRI after an initially negative scan. This imaging discrepancy underscores that a single negative MRI does not rule out EGE, and repeat imaging is warranted if clinical suspicion remains high.

Given the patient's refusal of operative intervention, the primary treatment strategy focused on conservative hormonal management. Initially, she received Depo Medroxyprogesterone Acetate (DMPA) injections monthly for six cycles, from September 2023 to February 2024. However, this therapy proved ineffective, as the bleeding from the biopsy site persisted. Following this, the patient was initiated on a GnRH agonist (Endrolin) for a planned six-cycle regimen starting in March 2024, which was subsequently extended to a total of 12 cycles until March 2025.

The resolution of bleeding from the biopsy scar was only noted after the seventh cycle of Endrolin, suggesting that a prolonged course of hormonal suppression was necessary for clinical improvement in this particular case. This extended duration of GnRH agonist therapy, although generally limited to six months due to concerns about hypoestrogenic side effects like bone density loss and vasomotor symptoms, was administered without add-back therapy in this patient. Interestingly, the patient did not report significant hypoestrogenic side effects during the 12-month treatment period. While ESHRE guidelines and FDA recommendations allow for GnRH agonist therapy up to 12 months with add-back therapy, this case demonstrates that clinical response can sometimes necessitate prolonged treatment even without add-back therapy, provided careful monitoring is in place [11–13].

After completing the GnRH agonist course, the patient was transitioned to oral Dienogest 2 mg/day for maintenance therapy in April 2025. Dienogest is a progestin widely recommended for its effectiveness in managing endometriosis symptoms and preventing recurrence without causing severe hypoestrogenism. However, due to economic constraints and drug unavailability, the patient discontinued Dienogest. Predictably, the bleeding from the biopsy site recurred within two days of stopping Dienogest, highlighting the chronic and recurrent nature of endometriosis and the critical importance of continuous, long-term hormonal therapy for maintaining remission. Consequently, DMPA injections every three months were re-suggested, which the patient's family was considering. The patient consistently declined the recommended operative laparoscopy with the Plastic Surgery team for wider excision. This decision underscores the need for patient-centered approaches, where the chosen management aligns with the patient's preferences and circumstances.

It is crucial to emphasize that surgical excision remains the cornerstone and most definitive treatment for localized inguinal endometriosis [3,9]. Surgery offers the potential for cure, provides a definitive histopathological diagnosis, and avoids the long-term side effects and costs associated with continuous hormonal suppression. The recurrence of symptoms immediately after stopping Dienogest powerfully illustrates the palliative nature of medical therapy. The patient's refusal, while respected, underscores the necessity for a patient-centered approach that balances clinical evidence with personal circumstances and psychological readiness. In such scenarios, medical management becomes the default, albeit second-line, strategy.

Regarding fertility, the patient, at 34 years old with one child, currently does not plan to have more children. While extragenital endometriosis may not directly impair ovarian or tubal function, it can indirectly affect fertility through systemic inflammation, hormonal dysregulation, or coexisting, undiagnosed intrapelvic endometriosis. Hormonal therapies suppress ovarian function temporarily, but ovulation typically resumes after discontinuation, offering a window for conception. Comprehensive counseling on future fertility planning remains crucial, even if not immediately pursued [19,20].

CONCLUSION

In conclusion, this case illustrates the diagnostic challenges posed by atypical presentations, often leading to prolonged suffering and misdiagnosis. It highlights the efficacy of extended GnRH agonist therapy in achieving symptom control, even without standard add-back therapy, when initial hormonal treatments fail and surgical options are declined. The immediate recurrence of symptoms upon cessation of maintenance therapy due to economic barriers underscores the critical role of long-term adherence and accessible treatment options in managing this chronic condition effectively. This case emphasizes the need for increased clinical vigilance for extragenital endometriosis, individualized and holistic management plans, and strategies to ensure treatment continuity, especially in resource-limited settings.

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CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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